

**Remarks/Arguments:**

Claims 1-9 were pending in the application. The Office Action rejects claims 1-6 and 8, objects to claim 1 and has withdrawn claims 7 and 9. With this amendment, claims 1, 6, 7 and 9 are amended and new claims 10-12 have been added.

Support for the amendment to claims 1 and 7 and for new claims 10 and 11 can be found in the originally filed specification, for example, at page 2, line 38 and page 3, lines 3-4. Support for new claim 12 can be found in the originally filed specification, for example, at page 3, lines 13-15. Support for the amendment to claim 6 can be found in the originally filed specification, for example, at page 3, lines 26-29. Claims 1, 6, 7 and 9 have also been amended for clarification purposes. No new matter has been added.

**I. Lack of Unity**

The Office Action indicates it has considered the Applicant's response to the Lack of Unity Requirement, but has indicated that even though claims 7 and 9 (Group II) are dependent on claim 3 (Group I), there are additional process steps that would require additional searching. Thus, the Office Action asserts that it is a "serious burden" to the Examiner to examine all of the claims.

First, Applicant contends that although an initial election in response to the Restriction Requirement was made, the election was made based on the claims before they were amended in the Supplemental Preliminary Amendment filed on the same date as the Restriction Requirement response. Thus, by amending claims 7 and 9, all the claims share the same "special technical features," and, as a result, there is no Lack of Unity. Apparently, even though there is now Unity of Invention, the Office Action takes the position that it would be a "serious burden" to examine all of the claims. Applicant contends that this rationale is improper. The Office Action has not cited any Rule or citation for supporting its restriction of claims 7 and 9 because it would require additional searching and be a serious burden to the Examiner. Applicant respectfully submits that if the Office Action wishes to maintain the Restriction Requirement based on it being a "serious burden," that the Office Action at least provide the

basis for this rationale. Otherwise, Applicant contends that such a basis is improper and that claims 7 and 9 be reinstated into the case.

Further, Applicant contends that the restriction of claims 7 and 9 is also improper for an additional reason. Claims 7 and 9 have been amended to be dependent on claim 3 of Group I. Applicant contends that in the very least, claims 7 and 9 are no longer a separate group, but should be considered a species within Group I. As such, Applicant respectfully submits that upon the allowance of a generic claim, claims 7 and 9 should also be reinstated into the application as allowable claims.

Accordingly, the Applicant clarifies that when it made the restriction "without traverse," it was doing so based on the set of claims which the Examiner reviewed prior to making the Restriction Requirement. In that set of claims, claim 7 was a separate independent claim. Now, however, claim 7 has been amended to be dependent on claim 3 which is dependent on claim 2, which in turn is dependent on claim 1. Because of the new claim dependency, Applicant believes it may traverse the restriction requirement as it applies to newly amended claim 7 and, in fact, does so. First it traverses the basis for the restriction requirement as discussed above because claims 7 and 9 now share the same "special technical feature" of claim 1, so there is no lack of unity. In addition, Applicant requests, at the very least, that claims 7 and 9 be brought back into this application upon an indication of allowance of the claims from which they depend.

## **II. Formality Rejections**

The Office Action objects to claim 1 stating that "'aliphatic' should be added before alcohol" and that "[a]ppropriate correction is required." (Office Action, page 3). Applicant contends that there is no basis for requiring this term in the claim. Further, Applicant presumes that the Office Action's reason for the objection is that the hydrogenation of an aliphatic aldehyde will inevitably result in an aliphatic alcohol. However, in such a case, the process is properly claimed in its present form because one of ordinary skill in the art would know which alcohol would be expected when the process of the invention is carried out. Therefore, Applicant contends that this objection is both unnecessary and baseless, and therefore improper.

The Office Action rejects claim 6 as indefinite because it is asserted that the phrase, "a period of time sufficient to provide from 0.2 to 10 kg sulfur (S) per ton of catalyst" is not defined in the specification. (Office Action, page 3). Applicant contends that this rejection is also improper. Claim 6 is not indefinite and finds sufficient disclosure and support in the originally filed application. The amount of time depends upon the concentration of sulphur in the feed stream and the amount of catalyst to be treated. Applicant contends that this is clear from claim 6 itself, as well as the specification at page 3, lines 20-34, and requests withdrawal of the rejection.

### **III. Substantive Rejections**

Claims 1-5 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,502,467 ("Mills"). Claims 6 and 8 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Mills. Applicant respectfully submits that the currently pending claims, as amended, are patentable over Mills for at least the reasons set forth below.

#### **A. Response to Anticipation Rejections**

Independent claim 1 stands rejected as anticipated by Mills. Mills describes a process for the reduction of an aldehyde to an alcohol using the specific process conditions mentioned in column 1, lines 47-59, so that feed streams which contain sulphur may be tolerated without affecting the catalyst. In column 1, at lines 22-27 and 28-34, and column 2, lines 32-38, it is explained that the precise conditions of feeding the reactants are selected so that the sulphur compounds do not decompose to form sulphur which can affect the catalyst used in the process. The Examples II and III of Mills show that it is undesirable to decompose the sulphur compounds in the aldehyde feed.

In the process as claimed in amended independent claim 1, by contrast, sulphur compounds are added to a feed stream with the intention that they are decomposed so that the catalyst is treated with sulphur. The Examples of the present application demonstrate that when this is done, the amount of alkanes produced by hydrogenation of co-fed alkenes is very much reduced. Therefore, Applicant contends that the disclosure of Mills is directed to precisely doing the opposite of the process as claimed in the present application. Therefore, the step of

"treating the hydrogenation catalyst with an organic sulphur compound" is not taught, disclosed or suggested in Mills because such treatment is avoided in Mills.

Moreover, although Mills discloses hydrogenating an aldehyde feed stream containing small amounts of sulphur over a CuO/ZnO catalyst, the sulphur is present in the feed as an impurity. In the process as claimed in independent claim 1, however, the sulphur is added to the feed stream in order to achieve a desired level of treatment of the catalyst. Therefore, Applicant contends that Applicant's claimed process is differentiated from Mills. Mills does not disclose that a sulphur compound should be added to an aldehyde feed. Rather, Mills teaches that sulphur compounds are undesirable because they can deactivate a catalyst and that, should a feed contain sulphur compounds, the hydrogenation conditions should be selected to ensure that the catalyst is not affected by the sulphur, i.e., that it is not treated with an organic sulphur compound. Thus, the teaching of Mills is directly contradictory to the process as claimed in claim 1.

For at least these reasons, Applicant contends that independent claim 1, as amended, is not anticipated by Mills. Claims 2-5 and 7 and 9-11, are also patentable over Mills at least for the same reasons that claim 1, on which they are dependent, is patentable, but may be separately patentable for additional reasons as well.

#### **B. Response to Obviousness Rejections**

Claims 6 and 8 stand rejected as obvious over Mills. At least with respect to claim 6, the Office Action admits that Mills does not teach step (c) of the process. Further, the Office Action asserts that because Mills uses the term "comprising" in describing its process, Mills suggests further steps in the process. The Office Action relies on a recent Federal Circuit case, *Dystar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356 (Fed. Cir. 2006) to assert that an explicit suggestion in a reference is not required and that the suggestion "may be found in any number of sources, including common knowledge, the prior art as a whole, or the nature of the problem itself." (Office Action, page 8). Although the Office Action's quotation from the caselaw may be accurately restated, Applicant contends that it is also incomplete. In addition to the quote cited by the Office Action, which is cited in *Dystar* from earlier caselaw, *Dystar* also states that "conclusory statements . . . do not fulfill the agency's obligation to

explain all material facts relating to a motivation to combine.” *Dystar*, 464 F.3d at 1366 (*citing In re Lee*, 277 F.3d 1338, 1344 (Fed. Cir. 2002)). In short, according to the caselaw, the Office Action must provide either evidence of a motivation, or, if no evidence is provided, an explanation of the specific understanding or technical principle for the motivation. Merely relying on the premise that the term “comprising” is open-ended, fails to provide the requisite explanation.

Notwithstanding the above, Applicant contends that the Office Action incorrectly states Mills discloses “... the step of treating catalyst with thiophene at a concentration of 0.05 weight percent (50 ppm) in Example II ....” (Office Action, page 6). In fact, 0.05 weight percent sulphur is equivalent to 500 ppm of sulphur, not 50 ppm of sulphur. This is consistent with the “Sulphur ppm” of the feed in Table II of Mills, given as 455 ppm. This is also the feed used in Example II, as described in Example III at col. 3, line 44. The sulphur content of the feed streams is therefore far in excess of the 150 ppm recited in claim 6. Applicant contends, therefore, that the Office Action has improperly based the finding of a disclosure of step (b) of claim 6 (as set forth on page 7 of the Office Action) on an incorrect reading of Mills.

Furthermore, Applicant contends that the Office Action’s assertion that step (c) of claim 6 would have been obvious to one of ordinary skill in the art in view of the broad disclosure of Mills, is also improper. Applicant contends that upon a proper reading of the cited passage, Mills does not contemplate changing the feed, or the sulphur content of the feed, after a predetermined amount of sulphur has passed through the catalyst. Although the sulphur content of Mills’ feed would be expected to vary, there is no teaching, disclosure or suggestion that it should be varied in such a way as to arrive at the process as claimed in claim 6. Therefore, Applicant contends that the Office Action has failed to establish a *prima facie* case of obviousness with regard to claim 6.

Claim 8, which is dependent on claim 1, is also patentable over Mills at least for the same reasons that claim 1 is patentable over Mills.


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#### IV. Conclusion

In view of the amendments and arguments set forth above, Applicant contends that the application is in condition for allowance. Notice to this effect is earnestly solicited.

Respectfully submitted,

  
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